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ABSTRACT

The purpose of this study was to describe the approach elementary school teachers use when diagnosing reading difficulties in their classrooms. The study examined two models, one depicting a general diagnostic process and one depicting a detailed diagnostic process. In depth interviews were conducted with ten teachers regarding their diagnostic and remedial practices for dealing with their students' reading difficulties. The results of the study indicated that the teachers (1) relied on general sources of information, such as listening to oral reading, as a basis for diagnosing children's reading deficiencies; (2) focused on general rather than specific categories of reading performance when rendering diagnostic judgments; and (3) prescribed remedial actions that reflected the desire to employ general instructional strategies, such as additional practice or individual instruction, rather than actions addressing the specifics of the children's problems. These findings raise questions regarding the adequacy or appropriateness of the formal training in reading diagnosis that classroom teachers receive. (Author/AEA)

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DIAGNOSIS AND REMEDIATION OF READING DIFFICULTIES IN THE CLASSROOM

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DIAGNOSIS AND REMEDIATION OF READING DIFFICULTIES IN THE CLASSROOM[1,2]

Doron Gil and Donald J. Freeman[3]

Objectives

Most educators are convinced that classroom-level diagnosis of reading performance is an essential component of effective reading instruction (Gil, Vinsonhaler, & Sherman, Note 1). In spite of the centrality of this component in most models of reading instruction, the diagnostic and remedial skills of classroom teachers have rarely served as the focus of empirical research.

The purpose of this investigation was to describe the general approach teachers use when dealing with children who have serious reading problems in their classrooms. Specifically, it was designed to determine the extent to which this approach reflects a detailed diagnostic process directed toward specific recommendations for remediation.

Conceptual Framework

This investigation is part of a series of interrelated studies conducted by the IRT's Clinical Studies Project. The project's overall goal is to investigate diagnostic and remedial processes employed by reading specialists and learning-disability personnel (Gil, Hoffmeyer, VanRoekel, & Weinshank, Note 2). The theory of clinical problem-solving behavior

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[1]Paper presented at the American Educational Research Association Conference, Boston, 1980.

[2]See IRT Research Series No. 71 (The decision-making and diagnostic processes of classroom teachers by Doron Gil) for a related report on how classroom teachers diagnose simulated cases of reading difficulties in laboratory settings that was done with the same 10 teachers as the study study reported here.

[3]Doron Gil is a researcher with IRT's Clinical Studies Project and a former IRT research intern. Donald J. Freeman is a researcher with IRT's Content Determinants Project.

that serves as the focus of the project maintains that the professional behaviors of reading specialists are determined to a large extent by identifiable cognitive processes (Vinsonhaler, Wagner, & Elstein, 1977). The exploratory investigation reported in this paper is an attempt to determine whether or not comparable cognitive strategies underlie the diagnostic and remedial strategies employed by classroom teachers.

The general conceptual framework on which the study focused suggests that when teachers who are trained in reading diagnosis are asked to deal with children who have reading problems, they will operate according to two distinct diagnostic models. For students with minor reading difficulties, teachers are apt to use what we refer to as the "general diagnostic model." This model is characterized by employment of an instructional strategy that is believed to provide an efficient treatment for a general class of comparatively minor reading problems. A teacher who suspects that a child is having problems with beginning and ending sounds, for example, may prescribe a series of seatwork exercises which deal with these skills. Such an action is prompted by the teacher's confidence in the effectiveness of the instructional strategy in dealing with this general class of problems, and reflects little or no concern for the more specfic nature of the child's difficulties, nor the extent to which this problem interacts with other difficulties the student may be experiencing.

For students with severe reading problems, on the other hand, teachers may use what we refer to as the "specific diagnostic-remediation model." This model, outlined in Figure 1, is characterized by the match between specific remedial treatments and diagnostic decisions based on thorough and specific diagnostic procedures.

Figure 1: A specific diagnostic-remediation model.

As Figure 1 suggests, the interaction of the teacher with a child who has serious reading problems should begin, according to this model, with the collection of information about the child's reading problems. This process could identify both formal and informal evidence of the child's ability to understand a paragraph (comprehension), knowledge of words (vocabulary), ability to read and identify words (word recognition), and so forth. Once a certain amount of information has been collected, the teacher would begin to engage in the diagnostic process. At this time, hypotheses about the child's reading problems may be formulated, and the teacher can proceed to collect more information to confirm or disconfirm these hypotheses. The diagnostic process might then be followed by the rendering of diagnostic judgments about the child's reading problems, and the prescription of specific remediations designed to alleviate the problems.

The formulation of two distinct models of diagnosis is based on an analogy from medical practice. For remediating minor problems, physicians are apt to rely on comparatively limited diagnostic inquiry as a basis for prescribing an effective, general treatment (e.g., penicillin three times a day for flu-like symptoms). For more serious problems, physicians are apt to call for, and then rely on, extensive diagnostic workups as a basis for prescribing specific remedial treatments. It therefore seems reasonable to hypothesize that classroom teachers who had formal training in reading diagnosis would employ comparable strategies in responding to children

with reading difficulties in their classrooms.

Methods and Data Source

The primary data source in this investigation was in-depth interviews conducted with 10 elementary school teachers from two large school districts in the Midwest. At the beginning of the interviews, teachers were asked to read descriptions of two children with serious reading problems, and to identify students in their own classrooms who seemed to match these vignettes (one student for each description). The two reading problems described in the vignettes were distinctly different. This procedure not only provided a common basis for cross-teacher comparisons, it also insured that teachers would describe their interactions with students with serious versus relatively minor reading problems.

The questions in the interview schedule focused on three distinct phases of the diagnostic process: (1) What information did teachers use as a basis for diagnosing reading problems? (2) How were diagnostic judgments rendered? and (3) What remedial actions were taken by the teachers?

Most of the questions asked teachers to describe their interaction with each of the students they had identified. Because these students could be expected to have serious reading problems, we hypothesized that the actions teachers described would generally conform to the specific diagnostic-remediation model.

Results

What Information Do Teachers Use as a Basis for Diagnosing Reading Problems?

The initial questions in the interview schedule asked teachers to describe the information they collected when diagnosing the reading performance of the two students they had identified. According to the specific diagnostic-

remediation model, it could be expected that teachers would collect a variety of both formal and informal evidence, and that the diagnostic workups would vary somewhat as a function of the specific problem the children exhibited.

It was therefore surprising that all of the teachers in the sample seemed to rely primarily on two general sources of information: (1) how the children were grouped in reading during the previous year (e.g., "I take last year's teacher's suggestion as to what would probably be an appropriate reading level for that child"), and (2) listening to the child read a passage with special attention to his/her comprehension and vocabulary (e.g., "I go over the reading vocabulary that they should know ...[and try to see] if they are understanding what they are reading," or "I listen to them read and ask them some comprehension questions").

Despite their training in using more systematic data collection activities, standardized tests and detailed diagnostic techniques were almost never mentioned. Although a few teachers mentioned that they did some additional classroom testing, the tests they described tended to be general in scope and informal in format (e.g., "I offer them the opportunity to read a few pages from a book that is at their instructional level" [no mention of specific tests used]). In short, even when working with students who have serious reading problems, the teachers seemed to rely on limited forms of diagnostic inquiry.

Do Diagnostic Judgments Tend to be General or Specific?

During the interviews, the teachers discussed various elements of each child's reading performance that seemed to serve as the foucs of their diagnostic decision making. By treating certain statements as functionally equivalent, it was possible to create a domain of diagnostic categories that the teachers were apparently using. The final version of the domain contained 96 specific categories, which can be grouped into six general classes:

Comprehension, Vocabulary, Word Recognition, Word Attack, Oral Reading, and Student Characteristics.

The creation of the domain of diagnostic categories was followed by an effort to determine the proportion of teachers who mentioned each category. This analysis is important because it may provide some idea of the diagnostic categories that are central to teachers' efforts to render diagnostic judgments. According to the specific diagnostic-remediation model and the conditions of this study, it could be expected that several teachers would cite the specific categories that characterized the reading deficiencies of the two children in the vignettes. Table 1 shows the diagnostic categories that were most frequently mentioned.

Diagnostic categories that were cited by a majority of the teachers in the sample tended to be very general in scope (e.g., Sight Vocabulary, Comprehension, Oral Reading). Categories that describe reading deficiencies in more detail, such as problems with beginning or ending sounds and blends, were rarely cited by three or more of the teachers. These observations seem to suggest that the 10 teachers in the study relied on a common set of general diagnostic categories when rendering diagnostic judgments about cases of reading difficulty, but probably did not share a common set of specific diagnostic categories. This conclusion, in turn, is most consistent with the argument that even those teachers who have received formal training in reading diagnosis typically conform to the general diagnostic model when rendering diagnostic judgments for students with serious reading problems.

What Remedial Actions Are Taken By the Teachers?

The final section of the interview schedule focused on remedial activities of the teachers. The intent of this series of questions was (1) to describe the remedial actions prescribed for the two students the teachers

Table 1

The 28 Most Frequently Mentioned Diagnostic Categories

Diagnostic Categories	Number of Teachers Mentioning Category
Sight Vocabulary	10
Comprehension	9
Silent Reading Comprehension	8
Oral Reading	8
Oral Reading Comprehension	7
Word Recognition	7
Vocabulary	6
Endings	6
Context	6
Listening Comprehension	5
Word Analysis	5
Decoding	5
Phonetic Analysis	5
Beginning Sounds	5
Short Vowels	5
Word Attack	4
Chunking	4
Sounds	4
Word Family Approach	4
Able to Sound Out	4
Phonetic Skills	4
Print Translation	4
Substitutions	4
Factual and Inferential Comprehension	3
Vocabulary Meaning	3
Guesses	3
Ending Sounds	3
Blends	3

had identified, and (2) to determine whether teachers provided differentiated remediation for the different reading problems experienced by the two children.

According to the specific diagnostic-remediation model, the remediation strategies prescribed by teachers should vary as a function of the specific deficiencies exhibited by the students with serious reading problems. In the initial phase of this analysis, we identified remediations that were mentioned for both of the students. These may be briefly described as follows:

Teacher 1.	a.	Work on phonetic skills.
Teacher 2.	a.	Take words out of context and see how the child handles them.
	b.	Encourage the child to work.
Teacher 3.	a.	Work on beginning, middle, and ending sounds.
	b.	Have the child work with an aid on short-paragraph stories.
	c.	Have the child go to a reading specialist for half an hour each day.
	d.	Work on short paragraphs with many questions.
Teacher 4.	a.	Work on print translation.
	b.	Focus on context until the child realizes that things make sense.
Teacher 5.	a.	A lot of practice.
Teacher 6.	a.	Work on vocabulary.
	b.	Spend time with him on an individual basis.
Teacher 7.	a.	Try to get the child to read words he/she cannot sound out.
	b.	Send words home, ask mother or father to help the child.
	c.	Ask the child to look at the picture.
	d.	Have games with words.
Teacher 8.	a.	Give the child additional material to read.
	b.	Have him/her read on a one-to-one basis.
	c.	Have him/her work on worksheets.
Teacher 9.	a.	Send the child to a reading teacher.
	b.	Do more individualized work with the child on a one-to-one basis.
Teacher 10.	a.	Encourage the child to do more by himself.
	b.	Encourage the child to ask for help.
	c.	Send the child to a reading lab.

This list of remediations suggests that most of the recommended remediations offered for both students represented general instructional strategies rather than specific remedial prescriptions. The instructional strategies that were most common across the 10 teachers either called for additional practice (e.g., he/she needs alot of practice, give him/her additional material to read, encourage him/her to read), or reflected the desire to carry out instruction on an individual basis with the teacher or an aide (e.g., he/she will work with an aide on short-paragraph stories, spend time with him/her on an individual basis, have him/her read on a one-to-one basis).

The analysis of common remedial strategies across both cases was followed by a careful examination of all remedial strategies mentioned by the teachers. This subsequent analysis provided further support for the notion of a general remediation phenomenon, and revealed three additional points:

(1) Seven of the 10 teachers stressed the need to deal with psychological characteristics of one or both of the children (e.g., "I didn't hassle her." "Encourage her to be brave." "Make him feel comfortable about himself."). Thus, it appears that these teachers may view the resolution of personal problems that might affect the reading act as more central to successful remediation than the implementation of specific instructional strategies designed to overcome the problems.

(2) Five teachers said that they conferred with, or sent one or both students to reading specialists for remediation. Again, the teachers seem to do this in lieu of formulating and providing their own specific remedial techniques.

(3) Four of the teachers expressed at least some doubts about their ability to formulate or supply a successful remediation strategy when asked about remediation for a specific area of reading difficulty, such as word

recognition or word analysis (e.g., "I don't know where I'm going from here." "I would have known at least what not to do." "The problem was never really remediated." "I don't know.").

In summary, this analysis of the classroom remediation plans the teachers used with two of their students who had serious reading deficiencies supports three general observations:

1. Teachers are most likely to prescribe general instructional strategies that might be expected to work with a comparatively wide range of learning deficiencies. Emphasis is most often placed on practice, drill, and individualized help from others.

2. The teachers often refer students to reading specialists.

3. Many teachers apparently prefer to approach serious reading problems by initially trying to help the students overcome some perceived personal problems.

If these responses are characteristic of the major remediation plans offered by teachers for students who have serious reading difficulties, one may question how successful classroom teachers are at remediation of reading difficulties.

Following are the teachers' responses, in their own words, to the question, "How do you know when and if you have remediated a child's reading problem?"

Teacher 1. "I feel that if a child is able to read orally a page, or silently, and be able to recognize or to sound out words and at least answer little questions...the child is on his way to really learning to read."

Teacher 2. "I never felt that I've (remediated). I don't know. I never reached the point where I felt a child has been remediated. I can see improvement perhaps, or growth, but I don't know of anyone that's ever reached that point."

Teacher 3. "When I see a change of attitude, that they are liking reading, beginning to participate in class work, raising their hand, answering questions better, when things like initial sounds (that were difficult for them at the beginning) become easy, and the testing in general."

Teacher 4. "I start to hear it (1) when a kid starts to make sense,

(2) when (a child) starts to make pretty close graphic or graphophonemics correspondances, and (3) when the kid starts to pull all things together."

Teacher 5. "If they can do exercises or practice after a lesson. I guess with a number of kids I'm aware of some specific problems that they had and so I try to notice if they still have them."

Teacher 6. "For some you can never remediate, that's just their ability. For the average child that has difficulty, just a lot of repetition and drill."

Teacher 7. "I have worksheets that I give out in the afternoon and usually they correspond with something the child has read about. If they can do the worksheets then I assume the problem has been remediated."

Teacher 8. "When it comes time to change books or through a test that I may give at the end of the book and see how well they do. I try to see if a child can orally read a page without any or few mistakes. I (also) check back in his workbook and see if he made a lot of mistakes."

Teacher 9. "I don't know if I've ever run into that I've done that. I guess any kid that I've had that's really been a low reader has still been a low reader at the end of the year."

Teacher 10. "In terms of specific skills, the reading lab has individual tests for different objectives at different grade levels. So after the child has special instruction in a reading skill, they get this test and if they get them all right then they figure the child knows the skill. If he misses, they go back and reinstruct and have more worksheets."

Several characteristics of these responses stand out.

1. The source of information teachers used when making judgments about successful remediation ranged from data provided by general observations (e.g, "When the kid starts to pull all things together") to information provided by specific observations (e.g., "If they are able to recognize or sound out words").

2. Evidence teachers generally relied on ranged from statements about non-measured attitudes (e.g., "If I see a change of attitude, that they are likeing reading") to statements about observed and measured performance (e.g., "If they can do the worksheets").

3. The statements ranged from expressions of confidence in remediation ability (e.g., "I start to hear it"), to expressions of feelings of inadequacy (e.g., "I never felt that I've remediated").

Conclusions

Although tentative at best, the results of this investigation seem to indicate that classroom teachers who have received formal training in reading diagnosis are nevertheless apt to (1) rely on general sources of information (e.g., listening to oral reading) as a basis for diagnosing children's reading deficiencies; (2) focus on general rather than specific categories of reading performance when rendering diagnostic judgments, and (3) prescribe remedial actions that reflect the desire to employ general instructional strategies, such as additional practice or individual instruction, rather than actions addressing the specifics of the children's problems.

Overall, the results indicated that the 10 teachers in this study consistently applied the general diagnostic model regardless of the level or specific nature of reading difficulty experienced by the student. Although the descriptions given to the teachers were of children with serious reading problems which, in the judgment of the researchers, called for thorough and specific diagnostic processes, none of the teachers appeared to have applied this model.

Implications

These findings stress the need for further careful examination of the diagnostic and remedial practices of classroom teachers. A major assumption underlying this study, and most models of effective reading diagnosis, is that teachers should use thorough and specific diagnostic techniques when dealing with youngsters with serious reading problems. The fact that none of the teachers in this sample attempted to apply the specific diagnostic remediation model therefore raises a number of important research questions. These include the following: (1) Is it hopelessly unrealistic to expect teachers to use the specific diagnostic-remediation model in the classroom setting? (2) Are actions prompted by the specific diagnostic remediation

model more effective in remediating serious reading difficulties than those suggested by the general diagnostic model? (Although this belief is shared by most reading experts, it has not been empirically tested.) and (3) Why have teacher education programs apparently failed in their efforts to prepare diagnostically oriented classroom teachers?

Reference Notes

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